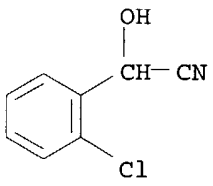
2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 13312-84-0 REGISTRY
CN Benzeneacetonitrile, 2-chloro-α-hydroxy- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Mandelonitrile, o-chloro- (6CI, 7CI, 8CI)
OTHER NAMES:
CN (±)-2-Chloromandelonitrile
CN (o-Chlorophenyl)glycolonitrile
CN 2-Chlorobenzaldehyde cyanohydrin
CN **2-Chloromandelonitrile**
CN o-Chlorobenzaldehyde cyanohydrin
CN o-Chloromandelonitrile
FS 3D CONCORD
DR 137766-65-5
MF C8 H6 Cl N O
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); NORL (No role in record)



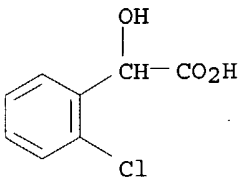

**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

36 REFERENCES IN FILE CA (1907 TO DATE)
36 REFERENCES IN FILE CAPLUS (1907 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> d l3

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 10421-85-9 REGISTRY
CN Benzeneacetic acid, 2-chloro-α-hydroxy- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Mandelic acid, o-chloro- (6CI, 7CI, 8CI)
OTHER NAMES:
CN (±)-2-Hydroxy-2-(2-chlorophenyl)acetic acid
CN (±)-o-Chloromandelic acid
CN (2-Chlorophenyl)glycolic acid
CN (2-Chlorophenyl)hydroxyacetic acid
CN 2-Chloro-α-hydroxybenzeneacetic acid
CN **2-Chloromandelic acid**
CN NSC 31401
CN o-Chloromandelic acid
FS 3D CONCORD
DR 52923-23-6
MF C8 H7 Cl O3
CI COM
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, IFICDB, IFIPAT, IFIUDB, IPA, SPECINFO, TOXCENTER, USPAT2, USPATFULL

(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); NORL (No role in record)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)




**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

66 REFERENCES IN FILE CA (1907 TO DATE)
66 REFERENCES IN FILE CAPLUS (1907 TO DATE)
5 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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    FILE 'REGISTRY' ENTERED AT 13:39:15 ON 29 SEP 2004
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2             1 S 2-CHLOROMANDELONITRILE/CN
3             1 S 2-CHLOROMANDELIC ACID/CN
4             1 S 2-CHLOROMANDELIC ACID/CN

    FILE 'CAPLUS' ENTERED AT 13:41:44 ON 29 SEP 2004
5            13 S 10421-85-9/PREP
6             6 S 10421-85-9/PROC
7             0 S 10421-85-9/PUR
8            19 S L5 OR L6
                S L8 AND  13312-84-0/REG#

    FILE 'REGISTRY' ENTERED AT 13:43:08 ON 29 SEP 2004
9             1 S 13312-84-0/RN

    FILE 'CAPLUS' ENTERED AT 13:43:08 ON 29 SEP 2004
10           36 S L9
11            2 S L8 AND L10
12            1 S L11 AND OPTICAL PUR?

> s l10 and acid and hydroly?
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       569414 HYDROLY?
13            8 L10 AND ACID AND HYDROLY?

> s l10 and acid
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14           23 L10 AND ACID

> s l10 and  hydroly?
       569414 HYDROLY?
15            9 L10 AND  HYDROLY?

> s l15 and py<2000
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16            6 L15 AND PY<2000

> d ibib abs hitstr

16  ANSWER 1 OF 6  CAPLUS  COPYRIGHT 2004 ACS on STN
CCESSION NUMBER:         1996:367768  CAPLUS
OCUMENT NUMBER:          125:32072
ITLE:                    Method of producing optically active α-hydroxy
                         acid or α-hydroxyamide
NVENTOR(S):              Tamura, Koji
ATENT ASSIGNEE(S):       Nitto Chemical Industry Co., Ltd., Japan
OURCE:                   Eur. Pat. Appl., 10 pp.
                         CODEN: EPXXDW
OCUMENT TYPE:            Patent
ANGUAGE:                 English
AMILY ACC. NUM. COUNT:   1
ATENT INFORMATION:

    PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
    ---------------      ----   --------    --------------------    --------
    EP 711836             A1    19960515    EP 1995-307976          19951108 <--
    EP 711836             B1    20000202
        R:  DE, FR, GB
    JP 08131188           A2    19960528    JP 1994-299109          19941109 <--
    JP 3119468            B2    20001218
    US 5736385            A     19980407    US 1995-556085          19951109 <--
RIORITY APPLN. INFO.:                       JP 1994-299109      A   19941109
THER SOURCE(S):          CASREACT 125:32072; MARPAT 125:32072
B   A reaction system, wherein a cyanohydrin is converted to an optically
    active α-hydroxy acid or α-hydroxyamide via a treatment in a
    reaction tank with a microorganism, is provided with an automatic
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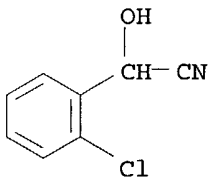
cyanohydrin controller comprising a cyano ion detector, a regulator, and a cyanohydrin supplier linked thereto. The reaction is performed while automatically controlling the cyanohydrin concentration Thus cyanohydrin can be supplied under automatic control at a relatively low and constant concentration on the basis of its consumption ratio. The reaction rate of the catalyst can be continuously regarded as the rate-limiting factor. As a result, a decrease in the enzymic activity during the reaction can be suppressed and an optically active α-hydroxy acid or α-hydroxyamide can be efficiently obtained at a high yield.

IT **13312-84-0**, 2-Chloromandelonitrile
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
(microbial production of optically active α-hydroxy acids or α-hydroxyamides from α-hydroxy nitriles)

RN 13312-84-0 CAPLUS

CN Benzeneacetonitrile, 2-chloro-α-hydroxy- (9CI) (CA INDEX NAME)

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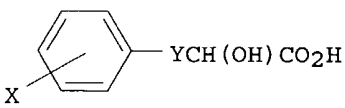
L16 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:699313 CAPLUS
DOCUMENT NUMBER: 121:299313
TITLE: Process for producing optically active alpha-hydrocarboxylic acid having phenyl group.
INVENTOR(S): Hashimoto, Yoshihiro; Endo, Takakazu; Tamura, Koji; Hirata, Yuji
PATENT ASSIGNEE(S): Nitto Chemical Industry Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 610048 | A2 | 19940810 | EP 1994-300704 | 19940131 <-- |
| EP 610048 | B1 | 19990922 | | |
| R: DE, FR, GB | | | | |
| JP 06237789 | A2 | 19940830 | JP 1993-37275 | 19930203 <-- |
| US 5580765 | A | 19961203 | US 1994-191164 | 19940203 <-- |
| PRIORITY APPLN. INFO.: | | | JP 1993-37275 | 19930203 |

OTHER SOURCE(S): CASREACT 121:299313; MARPAT 121:299313
GI

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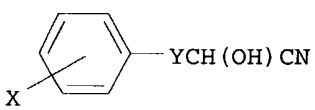


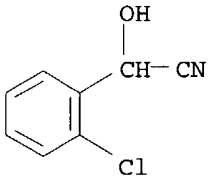

II

AB A biol. process predominantly produces optically active α-hydroxycarboxylic acids I (X = H, OH, or C1-3 aliphatic saturated alkoxy, thioalkyl, halo, Ph, phenoxy, amino, or nitro; Y = (CH2)n where n = 0-2)

by asym. **hydrolysis** of a a racemic α-hydroxynitrile II (X and n as above) or a mixture of an aldehyde corresponding to the nitrile and prussic acid in a neutral to basic aqueous medium by the microorganism Gordona terrae, isolated from soil. A desired optically active α-hydroxycarboxylic acid having a Ph group can be obtained quant. at a high optical purity. Thus, a G. terrae suspension with OD630 = 20 in a pH = 8.2 phosphate buffer at 30C was shaked for 96 h with 10 mM phenylaldehyde + 10 mM KCN. The yield of 3-phenyllactic acid was 7.5 mM (75%) and the optical purity (L-form) was 63%.

IT **13312-84-0**, 2-Chloromandelonitrile
RL: RCT (Reactant); RACT (Reactant or reagent)
(asym. **hydrolysis** of, by Gordona terrae)

RN 13312-84-0 CAPLUS
CN Benzeneacetonitrile, 2-chloro-α-hydroxy- (9CI) (CA INDEX NAME)




L16 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:5338 CAPLUS
DOCUMENT NUMBER: 116:5338
TITLE: Enzymic process for producing R(-)-mandelic acid and derivatives thereof
INVENTOR(S): Endo, Takakazu; Tamura, Koji
PATENT ASSIGNEE(S): Nitto Chemical Industry Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 28 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

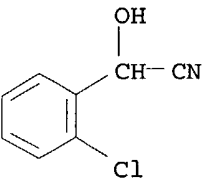
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 449648 | A2 | 19911002 | EP 1991-302802 | 19910328 <-- |
| EP 449648 | A3 | 19920722 | | |
| EP 449648 | B1 | 19990512 | | |
| R: DE, FR, GB | | | | |
| JP 04099495 | A2 | 19920331 | JP 1990-214914 | 19900816 <-- |
| JP 04099496 | A2 | 19920331 | JP 1990-214915 | 19900816 <-- |
| JP 2698936 | B2 | 19980119 | | |
| JP 04218385 | A2 | 19920807 | JP 1991-89189 | 19910329 <-- |
| US 5223416 | A | 19930629 | US 1991-677175 | 19910329 <-- |
| PRIORITY APPLN. INFO.: | | | JP 1990-80694 | 19900330 |
| | | | JP 1990-214914 | 19900816 |
| | | | JP 1990-214915 | 19900816 |

OTHER SOURCE(S): CASREACT 116:5338

AB A process for producing R(-)-mandelic acid or a derivative thereof comprises subjecting (i) R,S-mandelonitrile or a derivative thereof or (ii) a mixture of prussic acid and benzaldehyde or a derivative of benzaldehyde to the action of Aureobacterium, Pseudomonas, Caseobacter, Alcaligenes, Acinetobacter, Brevibacterium, Nocardia, and Bacillus or treated cells thereof, which microorganism is capable of stereospecifically **hydrolyzing** a nitrile group of the R,S-mandelonitrile or derivative, in a neutral or basic aqueous reaction system, to produce the R(-)-mandelic acid. Thus, racemic mandelonitrile was incubated with Alcaligenes BC24 for 16-24 h at 30° and pH 7.5. R(-) Mandelic acid was produced in 98% yield with an optical purity of 100%.

IT **13312-84-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(asym. **hydrolysis** of, with microorganisms)

RN 13312-84-0 CAPLUS
CN Benzeneacetonitrile, 2-chloro-α-hydroxy- (9CI) (CA INDEX NAME)



L16 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1988:112128 CAPLUS
DOCUMENT NUMBER: 108:112128
TITLE: Preparation and antimicrobial activity of p-chloro-p'-(α-carbamoylbenzylamino)diphenyl sulfones and 3-amino-2-aryl-5-p-chlorophenylsulfonylindoles
AUTHOR(S): Mehta, K. J.; Prekh, H. H.; Parikh, A. R.
CORPORATE SOURCE: Dep. Chem., Saurashtra Univ., Rajkot, India
SOURCE: Acta Ciencia Indica, Chemistry (**1985**), 11(3), 187-90
CODEN: ACICDV; ISSN: 0253-7338
DOCUMENT TYPE: Journal
LANGUAGE: English
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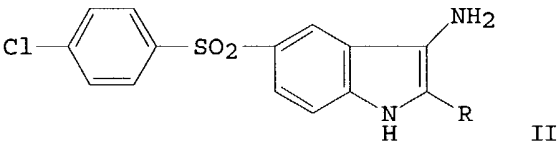
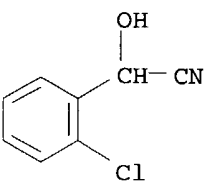


II

AB 4-ClC6H4SO2C6H4NHCHRR1 (I, R = Ph, 2-HOC6H4, 3-HOC6H4, 4-HOC6H4, MeOC6H4, 2-ClC6H4, 4-ClC6H4, 3,4-MeO(HO)C6H3, PhCH:CH, 4-O2NC6H4, 2-furyl; R1 = cyano) were prepared by treating RCH(OH)CN with 4-ClC6H4SO2C6H4NH2-4. Treatment of I (R1 = cyano) with H2SO4 for 2 days gave I (R1 = CONH2) whereas after 7 days the indoles II were obtained. I (R1 = CONH2) have bactericidal activity against Staphylococcus aureus and Escherichia coli (no data).
IT **13312-84-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminochlorodiphenyl sulfone)
RN 13312-84-0 CAPLUS
CN Benzeneacetonitrile, 2-chloro-α-hydroxy- (9CI) (CA INDEX NAME)



L16 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1980:180928 CAPLUS
DOCUMENT NUMBER: 92:180928
TITLE: Synthetic uses of open-chain analogs of Reissert

compounds

AUTHOR(S): McEwen, William E.; Grossi, Anthony V.; MacDonald, Russell J.; Stamegna, Andrew P.

CORPORATE SOURCE: Dep. Chem., Univ. Massachusetts, Amherst, MA, 01003, USA

SOURCE: Journal of Organic Chemistry (**1980**), 45(7), 1301-8
CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 92:180928

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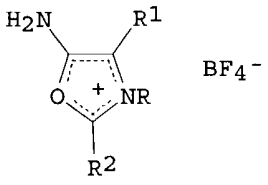
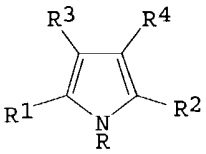


II



III, $R^1=R^2=Ph$, $R^3=R^4=CO_2Me$

IV, $R=R^3=H$, $R^1=Ph$, $R^2=Bz$, $R^4=CO_2Et$

VI, $R=R^1=R^2=Ph$, $R^3=H$, $R^4=CO_2Me$

AB Open-chain analogs, RN(COR2)CHR1CN (I, R = Ph, PhCH2, p-ClC6H4, p-MeOC6H4, Me(CH2)5, cyclohexyl; R1 = Ph, H, o-, m-, p-ClC6H4, 3,4-(MeO)2C6H3, o-, m-MeOC6H4, Bu; R2 = Ph, Me), of Reissert compds. are obtained by reaction of R1CH(OH)CN with RNH2, the resulting aminonitriles, RNHCHR1CN, then being acylated. Hydrofluoroborate salts, II, of I, are prepared by reaction with fluoroboric acid in HOAc. The salts, II, undergo 1,3-dipolar addition reactions with reactive alkynes to give substituted pyrroles and with Et acrylate to give a different type of substituted pyrrole, the initial step in this instance being a Diels-Alder reaction. Thus, addition of MeO2CC.tplbond.CCO2Me to II (R1 = R2 = Ph) gave III (R = Ph, m-ClC6H4, p-MeOC6H4, PhCH2); and addition of H2C:CHCO2Et to II (R = R1 = R2 = Ph) gave IV. I also undergo base-catalyzed reactions, such as alkylation with R5Br to provide R2CONRCR1R5CN (R5 = PhCH2, Bu, α-naphthylmethyl, R-R2 = as above), which, in turn, undergo cleavage reactions in ethanolic alkali to give ketones R1R5CO. A conjugate addition reaction of the anion BzNPhC-PhCN (V) to Me acrylate to give, after subsequent steps, VI was demonstrated. α-Anilino ketones, PhNHCHRCOR1, result when the anion V is treated with aldehydes, the initial reaction mixts. being subjected to subsequent alkaline **hydrolysis**. Finally, N-benzyl Reissert analogs give desoxybenzoins plus benzonitriles on treatment with NaH in THF.

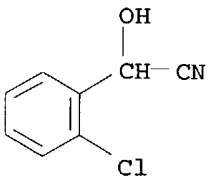
IT **13312-84-0P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction with amines, open-chain analogs of Reissert compds. from)

RN 13312-84-0 CAPLUS

CN Benzeneacetonitrile, 2-chloro-α-hydroxy- (9CI) (CA INDEX NAME)



L16 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1949:2594 CAPLUS
DOCUMENT NUMBER: 43:2594
ORIGINAL REFERENCE NO.: 43:605b-i,606a-c
TITLE: Preparation of the halophenylacetic acids
AUTHOR(S): Campbell, Neil; McKail, John E.
SOURCE: Journal of the Chemical Society, Abstracts (**1948**) 1251-5
CODEN: JCSAAZ; ISSN: 0590-9791
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
OTHER SOURCE(S): CASREACT 43:2594

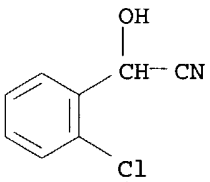
AB Granacher's synthesis (C.A. 16, 3898; 17, 2424) has been applied to the preparation of XC6H4CH2CO2H; the method depends on a satisfactory preparation of rhodanine (I), which is discussed. The yield of I depends upon the yield of H2NCSSNH4 (II) in the 1st stage of the reaction; the yield of II, as compared with that of CS(SNH4)2 (III), is a function of the NH3 concentration which, in turn, is dependent on the temperature The more concentrated the NH3 solution, the greater is the yield of III; the best yield of II is obtained at 10-15°; the yield of I from II is 44%. When the temperature is kept below 0%, III is the main product. Methods of distinguishing between II and III are given. Mol. quantities of aldehyde and I in AcOH (5 cc. per g. aldehyde), refluxed 0.5 h. with fused AcONa (twice the weight of I), give the following benzylidenerhodanines (IV): o-Cl, pale yellow, m. 192°, 97% (Andreasch, C.A. 22, 3410, gives 169°); m-Cl, pale yellow, m. 233°, 93%; p-Cl, yellow, m. 231-2°, 93%; o-Br, orange, m. 183.5°, 80%; m-Br, yellow, m. 238°, 90%; p-Br, yellow, m. 237-8°, 84%. IV were transformed into β-phenyl-α-thiopyruvic acids (V) by heating with 8 cc. 8% NaOH (per g. IV) at 50-5° until a clear or nearly clear solution resulted, cooling in an ice-salt bath, and acidifying rapidly with 3 N HCl; the crude acid in cold EtOH is precipitated with 1-2 vols. cold H2O and recrystd. from MeOH, petr. ether, etc.; however, the crude acids were used in the next step. o-Cl, m. 134-5°, 72% (A. gives 119-20°); m-Cl, straw-colored, m. 134°, 84%; p-Cl, yellow, m. 169-71°, 84% [a byproduct is probably α,α'-dithiobis(m-chlorocinnamic acid), yellow, m. 221-2°]; o-Br, lemon-yellow, m. 142-3°, 70%; m-Br, pale yellow, m. 133-4°, 81%; p-Br, m. 165-80°, 75% (could not be purified further). α-Isonitroso-β-(halophenyl)propionic acids (VI) were prepared from V by refluxing (about 0.5 h.) in alc. containing 3 mols. NH2OH (until H2S evolution ceases); the crude acid is precipitated from dilute NaOH solution with concentrated HCl. o-Cl, m. 156°, 83%; m-Cl, m. 149° (decomposition), 100%; p-Cl, m. 170° (decomposition) (1 sample m. 182°), 100%; o-Br, m. 150° (decomposition), 100%; m-Br, m. 151°, 93%; p-Br, m. 173°, 85% (yields are of crude products). VI, refluxed 10 min. with Ac2O (4 cc. per g. VI), the Ac2O removed in vacuo, and the residue extracted with ether, give the (halophenyl)acetonitriles (VII): o-Cl, b11 123-5°, 64%; m-Cl, b10 134-6°, 55%; p-Cl, b12 137-9°, m. 31-2°, 80%; o-Br, b13, 140-1°, 88%; m-Br, b10 145-7°, m. 27-8°, 70%; p-Br, b10-12 152-6°, m. 48°, 72%. The over-all yields of the VII from the aldehydes were: o-, m-, and p-Cl, 57, 47, 62%; o-, m-, and p-Br, 49, 44, 38%; further losses, sometimes considerable, occur in the next step. VII were **hydrolyzed** by boiling with 60% H2SO4 or, preferably, with 20% EtOH-KOH, giving RC6H4CH2CO2H (R given): o-Cl, m. 93-5° (p-nitrobenzyl ester, m. 70-1°); m-Cl, m. 77° (p-nitrobenzyl ester, m. 74-5°; p-toluidide, m. 138°); p-Cl, m. 104-6° (p-nitrobenzyl ester, m. 117°); o-Br, m. 104-5° (p-nitrobenzyl ester, m. 74-5°; p-toluidide, m. 183-4°; anilide, m. 153-4°); m-Br, m. 102-3° (p-nitrobenzyl ester, m. 75-6°; p-toluidide, m. 135°); p-Br, m. 113-15° (p-nitrobenzyl ester, m. 128-9°; anilide, m. 174-6°; p-toluidide, m. 203°). The results show that this method leaves much to be desired. The crystalline compound from 20 g. p-BrC6H4CHO, 80 cc. NaHSO3, and 5 cc. EtOH, stirred 2 h. with 10 g. KCN in 20 cc. H2O, gives 12.5 g. p-bromomandelonitrile, m. 78-9°; 11 g. and 46 cc. HI (d. 1.94), refluxed 1 h. give 1.5 g.

p-BrC6H4CH2CO2H; an unknown compound, m. 126-7°, is a byproduct. o-ClC6H4CHO, through o-ClC6H4CH(OH)CN, yields the benzoate (no properties given); refluxing with Pt black in tetralin did not give o-ClC6H4CH2CN. p-MeOC6H4CH2CN was obtained in 39% yield (yield of intermediate benzoate 74 and 92% in 2 expts.). Other methods were tried without much success. A mixture of o- and p-BrC6H4CH2CO2H could not be separated by fractional distillation of the acid chlorides or Et esters; chromatog. separation of the anilides, p-toluidides, and 2-naphthalides was only partially successful (they fluoresce in C6H6 but not on the Al2O3 column). α-(o-Bromophenyl)aceto-2-naphthalide, m. 188-9°; p-isomer, m. 203-4°. α-Phenylaceto-2-naphthalide m. 162-3°. In the preparation of the naphthalides by heating the acids with 2-C10H7NH2, (2-C10H7)2NH is obtained, the catalyst presumably being the halo acid. 2-C10H7NH2 and PhNH2 give 2-C10H7NHPh, and p-MeC6H4NH2 gives 2-C10H7NHC6H4Me-p, but o- or m-ClC6H4NH2 gives only (2-C10H7)2NH. 2-C10H7NH2 and its derivs. are more strongly adsorbed than the corresponding 1-derivs.

IT **13312-84-0**, Mandelonitrile, o-chloro-
(preparation of)

RN 13312-84-0 CAPLUS

CN Benzeneacetonitrile, 2-chloro-α-hydroxy- (9CI) (CA INDEX NAME)

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# Refine Search

**Search Results -**

| Terms | Documents |
|---|---|
| L11 and cyanohydrin and hydroly$6 | 3 |

**Database:** US Pre-Grant Publication Full-Text Database; US Patents Full-Text Database; US OCR Full-Text Database; EPO Abstracts Database; JPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

**Search:** L14

Refine Search | Recall Text | Clear | Interrupt

## Search History

**DATE: Wednesday, September 29, 2004** Printable Copy Create Case

| Set Name side by side | Query | Hit Count | Set Name result set |
|---|---|---|---|
| *DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ* | | | |
| L14 | l11 and cyanohydrin and hydroly$6 | 3 | L14 |
| L13 | l11 and cyanohydrin | 3 | L13 |
| L12 | L11 and 562/$ | 11 | L12 |
| L11 | L10 and rate | 42 | L11 |
| L10 | L9 and cool$5 and crystal$5 | 68 | L10 |
| L9 | L8 and optically pure | 117 | L9 |
| L8 | hydroxycarboxylic acid | 15476 | L8 |
| L7 | L1 and optically pure | 105 | L7 |
| *DB=PGPB,USPT; PLUR=YES; OP=ADJ* | | | |
| L6 | L1 and optically pure | 105 | L6 |
| L5 | L4 and rate | 0 | L5 |
| L4 | L3 and cool$5 and crystal$5 | 2 | L4 |
| L3 | L2 and optically pure | 4 | L3 |
| L2 | hydroxycarboxylic acid.ti. | 139 | L2 |

| | | | |
|---|---|---|---|
| L1 | hydroxycarboxylic acid | 10088 | L1 |

END OF SEARCH HISTORY

# Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

**Search Results** - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: US 20030215859 A1

**Using default format because multiple data bases are involved.**

L14: Entry 1 of 3 File: PGPB Nov 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030215859
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030215859 A1

TITLE: DNA shuffling of monooxygenase genes for production of industrial chemicals

PUBLICATION-DATE: November 20, 2003

INVENTOR-INFORMATION:

| NAME | CITY | STATE | COUNTRY | RULE-47 |
|---|---|---|---|---|
| Affholter, Joseph A. | Zephyr Cove | NV | US | |
| Davis, S. Christopher | San Francisco | CA | US | |
| Selifonov, Sergey A. | Plymouth | MN | US | |

US-CL-CURRENT: 435/6; 435/189, 435/320.1, 435/325, 435/7.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 2. Document ID: US 6605430 B1

L14: Entry 2 of 3 File: USPT Aug 12, 2003

US-PAT-NO: 6605430
DOCUMENT-IDENTIFIER: US 6605430 B1

TITLE: DNA shuffling of monooxygenase genes for production of industrial chemicals

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 3. Document ID: US 4517194 A

L14: Entry 3 of 3 File: USPT May 14, 1985

US-PAT-NO: 4517194
DOCUMENT-IDENTIFIER: US 4517194 A

TITLE: Azolylmandelic acid derivatives and use thereof for controlling

microorganisms

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

| Terms | Documents |
|---|---|
| L11 and cyanohydrin and hydroly$6 | 3 |

**Display Format:** - Change Format

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**Search Results** - Record(s) 1 through 10 of 11 returned.

☐ 1. Document ID: US 20010051747 A1

**Using default format because multiple data bases are involved.**

L12: Entry 1 of 11 File: PGPB Dec 13, 2001

PGPUB-DOCUMENT-NUMBER: 20010051747
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20010051747 A1

TITLE: Process for the separation of a mixture of enantiomers

PUBLICATION-DATE: December 13, 2001

INVENTOR-INFORMATION:

| NAME | CITY | STATE | COUNTRY | RULE-47 |
|---|---|---|---|---|
| Vries, Ton R. | Groningen | | NL | |
| Wijnberg, Hans | Haren | | NL | |
| Echten, Erik Van | Assen | | NL | |
| Hulshof, Lumbertus A. | Baarlo | | NL | |
| Broxterman, Quirinus B. | Sittard | | NL | |

US-CL-CURRENT: 562/401

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 2. Document ID: US 6235927 B1

L12: Entry 2 of 11 File: USPT May 22, 2001

US-PAT-NO: 6235927
DOCUMENT-IDENTIFIER: US 6235927 B1
**** See image for Certificate of Correction ****

TITLE: Process for the separation of a mixture of enantiomers

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 3. Document ID: US 5986074 A

L12: Entry 3 of 11 File: USPT Nov 16, 1999

US-PAT-NO: 5986074
DOCUMENT-IDENTIFIER: US 5986074 A
**** See image for Certificate of Correction ****

TITLE: Metal chelates as pharmaceutical imaging agents, processes of making such and uses thereof

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

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☐ 4. Document ID: US 5955053 A

L12: Entry 4 of 11 File: USPT Sep 21, 1999

US-PAT-NO: 5955053
DOCUMENT-IDENTIFIER: US 5955053 A
**** See image for Certificate of Correction ****

TITLE: Metal chelates as pharmaceutical imaging agents, processes of making such and uses thereof

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

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☐ 5. Document ID: US 5350761 A

L12: Entry 5 of 11 File: USPT Sep 27, 1994

US-PAT-NO: 5350761
DOCUMENT-IDENTIFIER: US 5350761 A

TITLE: Indolyl substituted hydroxylamine derivatives

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

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☐ 6. Document ID: US 5334600 A

L12: Entry 6 of 11 File: USPT Aug 2, 1994

US-PAT-NO: 5334600
DOCUMENT-IDENTIFIER: US 5334600 A

TITLE: Isoquinolyl substituted hydroxylamine derivatives

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

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☐ 7. Document ID: US 5260316 A

L12: Entry 7 of 11 File: USPT Nov 9, 1993

US-PAT-NO: 5260316
DOCUMENT-IDENTIFIER: US 5260316 A

TITLE: Isoquinolyl substituted hydroxylamine derivatives

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 8. Document ID: US 5246965 A

L12: Entry 8 of 11 File: USPT Sep 21, 1993

US-PAT-NO: 5246965
DOCUMENT-IDENTIFIER: US 5246965 A

TITLE: Arylethers, their manufacture and methods of treatment

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 9. Document ID: US 4384879 A

L12: Entry 9 of 11 File: USPT May 24, 1983

US-PAT-NO: 4384879
DOCUMENT-IDENTIFIER: US 4384879 A

TITLE: 4-(1H-Azolylmethyl)-1,3-dioxolan-5-one derivatives, production thereof and use thereof as growth regulators and/or microbicides

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 10. Document ID: US 3711528 A

L12: Entry 10 of 11 File: USPT Jan 16, 1973

US-PAT-NO: 3711528
DOCUMENT-IDENTIFIER: US 3711528 A

TITLE: RACEMIC DIHYDRO-PGE AND RELATED COMPOUNDS

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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| Terms | Documents |
|---|---|
| L11 and 562/$ | 11 |

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